

Remarks

The applicants respectfully request reconsideration and a determination that the claims of the captioned application are allowable after entry of the Amendment, that cancels claims 46 and 57.

1. The Office Action Summary of the initial office action (of 16 March 2005) indicated that “none of” the certified copies of the priority documents had been received in ancestor application Ser. No. 08/817,445. The 12 August 2005 reply to that office action pointed out that application Ser. No. 08/817,445 was a 35 USC §371 application, and that the foreign priority documents had been provided by the International Bureau. The 12 August 2005 reply also enclosed copies of the documents from the PTO’s prosecution history file for application Ser. No. 08/817,445 showing that the priority documents had been received. It is requested that the next office action acknowledge that all of the certified copies of the priority documents have been received in application Ser. No. 08/817,445.

2. None of the office actions for the captioned application has included initialed PTO-1449 forms indicating consideration of the documents listed in information disclosure statements. It is requested that the next office action acknowledge consideration of those listed documents. Copies of the four information disclosure statements previously submitted in connection with the captioned application are enclosed, together with copies of respective return receipt post cards showing PTO receipt effective on 19 March 2002, 17 June 2002, 19 June 2002, and 20 April 2004, respectively. Copies of listed documents previously submitted are not enclosed, but applicants will gladly submit another copy of any such listed document if that is the Examiner's preference.

3. The undersigned thanks the Examiner for her courtesy in a telephone conversation on 6 January 2006, during which the above two matters were discussed and she agreed to address those matters in the next office action.

4. Claims 22-63 are pending in the captioned application prior to entry of the Amendment. The Office Action stated that claims 43, 44, 54 and 55 are allowed. The Office Action rejected claims 22-42, 45-53 and 56-63 as being anticipated by Bartholomew.

a. Independent claim 22 requires a sensor for detecting a position of a down-tilt antenna, but Bartholomew does not disclose such a sensor. As pointed out in the Abstract and Background of Bartholomew, it describes a system for use in cellular, trunking, and other mobile communication systems, whose uniqueness lies in an ability to generate a wide variety of different radiation patterns. Bartholomew's Figures 3A-3H depict such different radiation patterns such as cardioid, figure-eight, omnidirectional, and combinations of these. Bartholomew describes in great detail various embodiments of structures and methods for creating this variety of radiation patterns. It states, "[i]n sum, the primary phase shifter 22 allows the simple array 10 to be used to produce omnidirectional patterns, cardioid patterns, figure-eight, and/or other radiation patterns in the horizontal plane." (Bartholomew 13:5-9).

Bartholomew contends that certain of these patterns are better than others for addressing capacity, geographic and other considerations in a cellular system. It discloses various ways to dynamically shift between the variety of patterns that the system is capable of creating, depending on the particular needs of a particular system at a particular time. However, Bartholomew does not disclose the claimed sensor.

The Office Action cited "22, 28; fig. 5, 1530; col 21, line 52-col 22, line 26" as its explanation of how Bartholomew disclosed the claimed sensor. Bartholomew phase shifters 22

and 28 effect phase shifts such as by varying the electrical length of a transmission media (*see* Bartholomew 12:44-51, 13:18-20, 13:29-31), but they are not sensors and do not sense or detect a position of a down-tilt antenna. Bartholomew Figure 5 also does not disclose a sensor. Similarly, the cited language in Bartholomew's columns 21-22 merely explains that phase shifters 22 and 28 effect phase shifts and presents a method of calculating a desired phase shift, but does not suggest a sensor for detecting a position of a down-tilt antenna. Bartholomew's downlink receiver 1530 receives and sends channel assignment data (Bartholomew 46:48-50), but has nothing to do with a sensor for detecting a position of a down-tilt antenna.

An example of a sensor is disclosed by the applicants' Figures 6 and 7. Reed switch 43 senses the magnetic field pulses created as magnets 44 on rotating threaded shaft 31 pass the switch (11:21-24). The number of pulses detected corresponds with the position of phase shifter portion 35 relative to portion 38, and with the degree of tilt of the antenna. Lines 76 and 77 are connected to switch 43 for external monitoring (14:4-9).

As Bartholomew does not disclose a sensor for detecting a position of a down-tilt antenna, it also does not disclose an antenna controller communicating with that sensor for controlling antenna position (as required by claim 22).

For at least the foregoing reasons, Bartholomew does not anticipate claim 22.

b. The Office Action did not explain its basis for rejection of claims 23-30. Those claims depend directly or indirectly from independent claim 22 and, consequently, are not anticipated by Bartholomew for that reason alone. In addition, many of their additional limitations are not disclosed by Bartholomew. For example, it does not disclose a main controller informing a user interface that it is unable to communicate with an antenna controller, as required by claim 26. It does not disclose a main controller informing a user interface that it is

unable to adjust an antenna position to a desired antenna position, as required by claim 27. It does not disclose a motor for adjusting antenna position, and it does not disclose a driver connected to that motor for activating that motor. Both of those limitations are required by claim 30.

c. Independent claim 31 requires a plurality of sensors for respectively detecting positions of a plurality of antennas. In asserting anticipation by Bartholomew, the Office Action used the same citations to Bartholomew that are addressed above with respect to claim 22. As Bartholomew does not disclose the required plurality of sensors, it also does not disclose a plurality of antenna controllers communicating with corresponding sensors of the plurality of sensors for controlling a position of an associated antenna (as required by claim 31). For at least the foregoing reasons, Bartholomew does not anticipate claim 31.

d. The Office Action did not explain its basis for rejection of claims 32-37. Those claims depend from independent claim 31 and, consequently, are not anticipated by Bartholomew for that reason alone. In addition, many of their additional limitations are not disclosed by Bartholomew. For example, it does not disclose a plurality of motors for adjusting the position of associated antennas, and it does not disclose a driver connected to each of the plurality of motors for driving the plurality of motors. Both of those limitations are required by claim 37.

e. Independent claim 38 requires a plurality of sensors, each sensor associated with one of a plurality of antennas, for detecting the antenna positions. In asserting anticipation by Bartholomew, the Office Action used the same citations to Bartholomew that are addressed above with respect to claim 22. As Bartholomew does not disclose the required plurality of sensors, it also does not disclose a plurality of antenna controllers, each connected to a respective

one of the plurality of sensors, for reading the detected antenna positions and for adjusting the antenna positions based on the detected antenna positions (as required by claim 38). For at least the foregoing reasons, Bartholomew does not anticipate claim 38.

f. The Office Action did not explain its basis for rejection of claims 39-42. Those claims depend directly or indirectly from independent claim 38 and, consequently, are not anticipated by Bartholomew for that reason alone. In addition, many of their additional limitations are not disclosed by Bartholomew. For example, it does not disclose a plurality of motor driving assemblies for adjusting antenna positions, and it does not disclose each of a plurality of motor driving assemblies being controlled by respective ones of a plurality of antenna controllers. Both of these limitations are required by claim 41. Bartholomew also does not disclose the motor driving assemblies comprising a gear train of phase shifters to steer radiation emitted from the antennas, a stepper motor to drive the gear train of phase shifters, a gear shaft disposed between the gear train and the stepper motor, or a stepper motor driver for powering the stepper motor. All of those limitations are required by claim 42.

g. The Office Action did not explain its basis for rejection of independent claim 45. Claim 45 limitations include, for example, a user requesting a system check, a main controller transmitting an antenna check command to an addressed one of a plurality of antenna controllers, the addressed antenna controller returning an antenna position to the main controller, and determining whether the addressed antenna controller responded. Bartholomew does not disclose these limitations, and does not anticipate claim 45.

h. Independent claim 47 requires a sensor for detecting a position of a down-tilt antenna. In asserting anticipation by Bartholomew, the Office Action used the same citations to Bartholomew that are addressed above with respect to claim 22. As Bartholomew does not

disclose the required sensor, it also does not disclose an antenna controller communicating with the sensor for controlling antenna position (as required by claim 47). For at least the foregoing reasons, Bartholomew does not anticipate claim 47.

i. The Office Action did not explain its basis for rejection of claims 48-50, 58 and 59. Those claims depend directly or indirectly from independent claim 47 and, consequently, are not anticipated by Bartholomew for that reason alone. In addition, many of their additional limitations are not disclosed by Bartholomew. For example, it does not disclose a main controller informing a user interface that the main controller is unable to communicate with an antenna controller, as required by claim 49. It does not disclose a main controller informing a user interface that it is unable to adjust an antenna position to a desired antenna position, as required by claim 50.

j. Independent claim 51 requires a sensor for detecting a position of a down-tilt antenna. In asserting anticipation by Bartholomew, the Office Action used the same citations to Bartholomew that are addressed above with respect to claim 22. As Bartholomew does not disclose the required sensor, it also does not disclose an antenna controller communicating with the sensor for controlling antenna position (as required by claim 51). For at least the foregoing reasons, Bartholomew does not anticipate claim 51.

k. The Office Action did not explain its basis for rejection of claims 52 and 53. Those claims depend from independent claim 51 and, consequently, are not anticipated by Bartholomew for that reason alone. In addition, many of their additional limitations are not disclosed by Bartholomew. For example, it does not disclose a motor for adjusting an antenna position, and it does not disclose a driver connected to that motor for activating that motor. Both of those limitations are required by claim 53.

1. The Office Action did not explain its basis for rejection of independent claim 56. Claim 56 limitations include, for example, a user requesting a system check, a main controller transmitting an antenna check command to an addressed one of a plurality of antenna controllers, the addressed antenna controller returning an antenna position to the main controller, and determining whether the addressed antenna controller responded. Bartholomew does not disclose these limitations, and does not anticipate claim 56.

m. The Office Action did not explain its basis for rejection of claims 60 and 61. Those claims depend from claim 54, which was allowed by the Office Action. Consequently, claims 60 and 61 are not anticipated by Bartholomew for that reason alone.

n. Independent claim 62 requires a sensor for detecting a position of components used to down tilt an antenna to determine the down-tilt of the antenna. In asserting anticipation by Bartholomew, the Office Action used the same citations to Bartholomew that are addressed above with respect to claim 22. As Bartholomew does not disclose the required sensor, it also does not disclose an antenna controller communicating with the sensor for controlling antenna position (as required by claim 62). For at least the foregoing reasons, Bartholomew does not anticipate claim 62.

o. The Office Action did not explain its basis for rejection of claim 63. That claim depends from claim 62 and, consequently, is not anticipated by Bartholomew for that reason alone.

The applicants submit that the claims are in condition for allowance, and request reconsideration and a determination that the claims are allowable. Should the Examiner be of the opinion that a telephone conference would expedite prosecution of the captioned application, the applicants request the Examiner to call the undersigned at the below-listed telephone number.

Respectfully submitted,



L. Friedman, Reg. No. 37,135

Date: 6 January 2006

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In re Patent Application of Heinz et al.
Serial No. 10/025,155

Filed: December 18, 2001

ANTENNA CONTROL SYSTEM

EDC/mjc

March 12, 2002

File No. 7836-84512USC



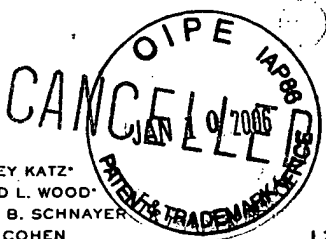
Transmittal Letter (in duplicate); Information Disclosure Statement (in duplicate); Forty (40) U.S. references cited therein; Forty (40) foreign references cited therein; Ten (10) other documents cited therein; Postcard

Commissioner for Patents:

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Please acknowledge receipt of the above-identified documents by applying the Patent and Trademark Office receipt hereto and mailing this card.

Respectfully,
Welsh & Katz, Ltd.



WELSH & KATZ, LTD.

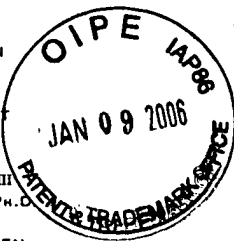
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March 12, 2002

Commissioner for Patents
Washington, D.C. 20231

Re: Patent Application of Heinz et al.
Serial No. 10/025,155
Filed: December 18, 2001
ANTENNA CONTROL SYSTEM
Our File No. 7836-84512USC1

CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this date.

31202

Date Eric D. Cohen, Reg. No. 38,110

Dear Sir:

Enclosed herewith are the following:

1. Transmittal Letter (in duplicate);
2. Information Disclosure Statement (in duplicate);
3. Form PTO-1449 (in duplicate);
4. Forty (40) U.S. references cited therein;
5. Forty (40) foreign references cited therein;
6. Ten (10) other documents cited therein; and
7. Postcard.

The Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 23-0920. A duplicate copy of this sheet is enclosed.

Very truly yours,

WELSH & KATZ, LTD.

By


Eric D. Cohen



Docket: 84512USC1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Heinz et al.	Group Art Unit:	Not Yet Assigned
Serial No.:	10/025,155	Examiner:	Not Yet Assigned
For:	ANTENNA CONTROL SYSTEM	Filed:	December 18, 2001

INFORMATION DISCLOSURE STATEMENT

- ☒ 1 Pursuant to 37 CFR 1.97(b)
[within 3 months of filing or prior to 1st Office Action]
- ☐ 2 Certification Pursuant to 37 CFR 1.97(c)
[before Final Office Action or Allowance]
- ☐ 3 Fee Payment Pursuant to 37 CFR 1.97(c)
[before Final Office Action or Allowance]
- ☐ 4 Petition, Certification & Petition Fee Payment Pursuant to 37 CFR 1.97(d)
[before issue fee payment]

Commissioner for Patents
Washington, DC 20231

SIR:

The following are submitted in the above identified application in compliance with 37 CFR 1.97 & 1.98:

- ☒ 5 A list of documents on Form PTO-1449 together with copies of each identified document and a translation or a concise explanation of each non-English language document is enclosed herewith.

This paper is submitted in accordance with:


- ☒ 6 37 CFR 1.97(b): [within 3 months of filing or prior to 1st Office Action]
- ☐ 7 37 CFR 1.97(c): [before Final Office Action or Allowance, whichever is earlier]; and
- ☐ 8 The required certification made in item 11 below; or
- ☐ 9 The \$180.00 fee specified in 37 CFR § 1.17(p) for submission of this Information Disclosure Statement is authorized in item 14 below.
- ☐ 10 37 CFR 1.97(d): [before issue fee payment]; and
 - a) This is a petition for consideration of the subject Information Disclosure Statement. The petition fee (\$180.00) required by 37 CFR 1.17(i)(1) is authorized in item 14 below. (Direct this letter to: "Attention PETITIONS EXAMINER" and if applicable include batch locator information: e.g. "Allowed Files, Batch _____, Date of Allowance _____"), and
 - b) The required Certification is stated in item 11 below.

☐ 11 Certification

- ☐ 12 Each item of information in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; or
- ☐ 13 No item of information contained in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the person signing this document after making reasonable inquiry, was known to any individual designated in 37 CFR 1.56(c) more than three (3) months prior to the filing of this Statement.
- ☒ 14 Please charge all applicable fees associated with the submittal of this Information Disclosure Statement to Deposit Account No. 23-0920. An original and one (1) copy of this document are enclosed.

Respectfully submitted,

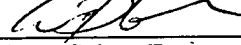
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March 12, 2002

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3.12.02 
Date Eric D. Cohen, Esq.
Registration No. 38,110
Attorney for Applicants

CANCELLED

Form PTO-1449 JAN 10 2006

(Rev. 8-88)

U.S. Department of Commerce
Patent and Trademark OfficeAttorney Docket No.
84512USC1Serial No.
10/025,155INFORMATIONAL DISCLOSURE STATEMENT
(Use several sheets if necessary)

Applicants

Heinz et al.

Filing Date
December 18, 2001Group No.
Not Yet Assigned

U.S. PATENT DOCUMENTS

Examiner Initial*	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	2,041,600	05/19/36	H.T. Friis			
	2,432,134	12/09/47	V.B. Bagnall			
	2,540,696	02/06/51	W.J. Smith, Jr.			
	2,596,966	05/13/52	W.W. Lindsay, Jr.			
	2,648,000	08/04/53	M.G. White			
	2,773,254	12/04/56	H.F. Engelmann			
	2,836,814	05/27/58	J.J. Nail			
	2,968,808	01/17/61	L. Russell			

FOREIGN PATENT DOCUMENTS

	Document Number/ Acceptance Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	AU-B-38746/93; 656857	29/07/93	Australia			X	
	AU-B-41625/93; 664625	20/01/94	Australia			X	
	AU-B-80057/94; 688398	04/05/95	Australia			X	
	DE 3323 234 A1	10/01/85	Germany			Abstract Only	
	O 137 562 A2	17/04/85	EPO			X	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	Variable-Elevation Beam-Aerial Systems for 1 ½ Metres, <u>Journal IEE Part IIIA</u> , Vol. 93, 1946, Bacon, G.E.
	Radar Antennas, <i>Bell Systems Technical Journal</i> , Volume 26, April, 1947, pages 219 to 317, Friis, H.T. and Lewis, W.D.
	<i>The Sydney University Cross-Type Radio Telescope</i> , Proceedings of the IRE Australia, February, 1963, pages 156 to 165, Mills, B.Y., et al.
	"Microwave Scanning Systems" published about 1985, pages 48 to 131
	"Low Sidelobe and Titled Beam Base-Station Antennas for Smaller-Cell Systems," published in or about 1989, Yamada & Kijima, NTT Radio Communication Systems Laboratories, pages 138 to 141
	"Electrical Downtilt Through Beam-Steering versus Mechanical Downtilt," G. Wilson, published May 18, 1992, pages 1-4

Examiner

Date Considered

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449 (Rev. 8-88)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 84512USC1		Serial No. 10/025,155	
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)				Applicants Heinz et al.			
				Filing Date December 18, 2001		Group No. Not Yet Assigned	
U.S. PATENT DOCUMENTS							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		3,032,759	05/01/62	R.M. Ashby			
		3,032,763	05/01/62	C.J. Sletten			
		3,969,729	07/13/76	Nemitt			
		4,129,872	12/12/78	Toman			
		4,241,352	12/23/80	Alspaugh et al.			
		4,427,984	01/24/84	Anderson			
		4,249,181	02/03/81	Lee			
		4,532,518	07/30/85	Gaglione et al.			
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation Yes No
		0 241 153 B1	14/10/87	EPO			X
		0 357 165 A2	07/03/90	EPO			X
		0 398 637 A2	22/11/90	EPO			X
		0 423 512 A2	24/04/91	EPO			Abstract Only
		0 588 179 A1	23/03/94	EPO			Abstract Only
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
		Mobile Telephone Panel Array (MTPA) Antenna: Field Adjustable Downtilt Models published in Australia on or about May 4, 1994					
		Mobile Telephone Panel Array (MTPA) Antenna: VARITILT Continuously Variable Electrical Downtilt Models (including specifications sheet) published in Australia on or about September 1994.					
		Supplementary European Search Report for Application No. EP 95 93 3674 dated January 9, 1999.					
		International Search Report for PCT/NZ 95/00106 mailed January 23, 1996.					
Examiner				Date Considered			
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

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U.S. PATENT DOCUMENTS							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		4,564,824	01/14/86	Boyd, Jr.			
		4,575,697	03/11/86	Rao et al.			
		4,652,887	03/24/87	Cresswell			
		4,714,930	12/22/87	Winter et al.			
		4,717,918	01/05/88	Finken			
		4,768,001	08/30/88	Chan-Son-Lint et al.			
		4,788,515	11/29/88	Wong et al.			
		4,791,428	12/13/88	Anderson			
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	<div style="text-align: center;">Translation</div> <div style="display: flex; justify-content: space-between;"> Yes No </div>
		0 595 726 A1	04/05/94	EPO			Abstract Only
		0 618 639 A2	05/10/94	EPO			X
		2 581 255	31/10/86	France			Abstract Only
		1 314 693	26/04/73	UK			X
		2 035 700 A	18/06/80	UK			X
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
Examiner				Date Considered			
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

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INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)				Applicants Heinz et al.			
				Filing Date December 18, 2001		Group No. Not Yet Assigned	
U.S. PATENT DOCUMENTS							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		4,804,899	12/14/89	Wurdack et al.			
		4,814,774	03/21/89	Herczfeld			
		4,821,596	04/18/89	Eklund			
		5,162,803	11/10/92	Chen			
		5,181,042	01/19/93	Kaise et al.			
		5,184,140	02/02/93	Hariu et al.			
		5,214,364	05/25/93	Perdue et al.			
		5,281,974	01/25/94	Kuramoto et al.			
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation
							Yes No
		2 158 996 A	20/11/85	UK			X
		2 159 333 A	27/11/85	UK			X
		2 165 397 A	09/04/86	UK			X
		2 196 484 A	27/04/88	UK			X
		2 205 946 A	21/12/88	UK			X
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
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Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		5,440,318	08/08/95	Butland et al.			
		5,488,737	01/30/96	Harbin et al.			
		5,512,914	04/30/96	Hadzoglou et al.			
		5,551,060	08/27/96	Fujii et al.			
		5,801,600	09/01/98	Butland et al.			
		5,805,996	09/08/98	Salmela			
		5,818,385	10/06/98	Bartholomew			
		6,198,458 B1	03/06/01	Heinz et al.			
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation
							Yes No
		2 232 536 A	12/12/90	UK			X
		61-172411	04/08/86	Japan (See separate abstract.)			Abstract Only
		1-120906	12/05/89	Japan (See separate abstract.)			Abstract Only
		2-121504	09/05/90	Japan (See separate abstract.)			Abstract Only
		2-174402	05/07/90	Japan (See separate abstract.)			Abstract Only
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
Examiner				Date Considered			
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Form PTO-1449 (Rev. 8-88)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 84512USC1		Serial No. 10/025,155	
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)				Applicants Heinz et al.			
				Filing Date December 18, 2001		Group No. Not Yet Assigned	
U.S. PATENT DOCUMENTS							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation Yes No
		2-290306	30/11/90	Japan (See separate abstract.)			Abstract Only
		4-286407	12/10/92	Japan			Abstract Only
		5-121915	18/05/93	Japan			Abstract Only
		5-191129	30/07/93	Japan			Abstract Only
		6-196927	15/07/94	Japan			Abstract Only
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
Examiner				Date Considered			
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Form PTO-1449 (Rev. 8-88)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 84512USC1		Serial No. 10/025,155		
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)				Applicants Heinz et al.				
				Filing Date December 18, 2001		Group No. Not Yet Assigned		
U.S. PATENT DOCUMENTS								
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
FOREIGN PATENT DOCUMENTS								
		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
		264864	Filed: 04/11/94	New Zealand			X	
		272778	Filed: 15/08/95	New Zealand			X	
		WO 95/10862	20/04/95	PCT - New Zealand			X	
		WO 88/08621	03/11/88	PCT - US			X	
		3322-986-A	25/06/83	DE (Abstract Only)			X	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)								
Examiner				Date Considered				
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

Form PTO-1449 (Rev. 8-88)	U.S. Department of Commerce Patent and Trademark Office INFORMATION DISCLOSURE STATEMENT (Use additional sheets if necessary)	Attorney Docket No. 84512USC1	Serial No. 10/025,155
		Applicants Heinz et al.	
		Filing Date December 18, 2001	Group No. Not Yet Assigned

U.S. PATENT DOCUMENTS

Examiner Initial*	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	3323-234-A	28/06/83	DE (Abstract only)			X	
	137-562-A	07/10/83	EP (Abstract only)			X	
	241-153-A	07/04/86	EP (Abstract only)			X	
	357-165-A	31/08/88	EP (Abstract only)			X	
	398-637-A	17/05/89	EP (Abstract only)			X	

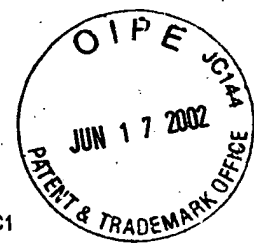
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Examiner

Date Considered

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

By



In re Patent Application of Heirz et al.
Serial No. 10/025,155
Filed: December 18, 2001
ANTENNA CONTROL SYSTEM

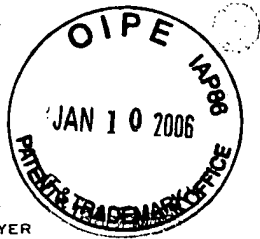
EDC/mjc
June 7, 2002
File No. 7836-84512USC1

Transmittal letter (in duplicate); Submission Under 37 C.F.R. §1.56(in duplicate); Three (3) U.S. references cited therein; Two (2) foreign abstracts cited therein; Postcard

Commissioner for Patents:

Please acknowledge receipt of the above-identified documents by applying the Patent and Trademark Office receipt hereto and mailing this card.

Respectfully,
Welsh & Katz, Ltd.



WELSH & KATZ, LTD.

Attorneys at Law

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JAMES P. WHITE
R. MARK HALLIGAN
HARTWELL P. MORSE, III
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INDIRA SALADI
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DONALD L. WELSH (1925-1998)

* ALSO ADMITTED IN DISTRICT OF COLUMBIA

June 7, 2002

Commissioner for Patents
Washington, D.C. 20231

Re: Patent Application of Heinz et al.
Serial No. 10/025,155
Filed: December 18, 2001
ANTENNA CONTROL SYSTEM
Our File No. 7836-84512USC1

Dear Sir:

Enclosed herewith are the following:

1. Transmittal Letter (in duplicate);
2. Submission Under 37 C.F.R. §1.56 (in duplicate);
3. Three (3) U.S. references cited therein;
4. Two (2) foreign abstracts cited therein; and
5. Postcard.

The Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 23-0920. A duplicate copy of this sheet is enclosed.

Very truly yours,


WELSH & KATZ, LTD.

By


Eric D. Cohen

CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service as First-Class Mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this date.

Date  Eric D. Cohen, Reg. No. 38,110



84512USC1

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:)
Heinz et al.)
Serial No.: 10/025,155)
Filed: December 18, 2001)
For: ANTENNA CONTROL)
SYSTEM)
Primary)
Examiner: Not Yet Assigned)
Art Unit: 2824)

CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service as First-Class Mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this date.

6-7-02

Date

Eric D. Cohen

Reg. No. 38,110

Commissioner for Patents
Washington, D.C. 20231

SUBMISSION UNDER 37 C.F.R. § 1.56

Sir:

In compliance with the rules under 37 C.F.R. § 1.56 and the regulations under Chapter 2000 of the M.P.E.P., applicants wish to direct the Examiner's attention to related co-pending patent application Serial No. 09/788,790 filed February 19, 2001 (Attorney Docket No. 83665) in the names of Zimmerman et al., entitled Antenna System (as amended).

Additionally, applicants wish to direct the Examiner's attention to the below-listed documents because such documents (copies enclosed herewith) were listed by the Examiner during prosecution of ancestor application Serial No. 09/713,614 (Attorney Docket No. 84512US), in a document entitled Notice of References Cited.

<u>U.S. Patent No.</u>	<u>Issue Date</u>	<u>Filing Date</u>
5,798,675	August 25, 1998	February 25, 1997
5,905,462	May 18, 1999	March 18, 1998
6,188,373 B1	February 13, 2001	March 4, 1998

Further, applicants wish to direct the Examiner's attention to the below-listed documents (copies enclosed herewith) because such documents were listed in a PCT Search Report in an ancestor patent application.

<u>Publication No.</u>	<u>Published</u>
Abstract of JP 02-174302 A	July 5, 1990
Abstract of JP 02-174403 A	July 5, 1990

The Commissioner is hereby authorized to charge any additional fee which may be required for this application under 37 C.F.R. §§ 1.16-1.18, including but not limited to the issue fee, or credit any overpayment, to Deposit Account No. 23-0920. Should no proper amount be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 23-0920. A duplicate copy of this sheet(s) is enclosed.

Respectfully submitted,

WELSH & KATZ, LTD.

By



Eric D. Cohen
Registration No. 38,110

WELSH & KATZ, LTD.
120 South Riverside Plaza
22nd Floor
Chicago, Illinois 60606
(312) 655-1500
June 7, 2002

In re Patent Application of Heinz et al.
Serial No. 10/025,155
Filed: December 18, 2001
ANTENNA CONTROL SYSTEM

EDC/mjc
June 12, 2002
File No. 7836-64512USC1

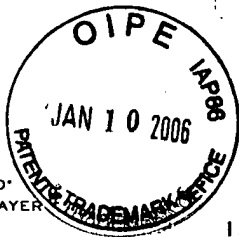


Transmittal Letter (in duplicate); First Supplemental Information Disclosure Statement (in duplicate); Form PTO-1449 (in duplicate); Two (2) U.S. references cited therein; One (1) other document cited therein; Postcard

Commissioner for Patents:

Please acknowledge receipt of the above-identified documents by applying the Patent and Trademark Office receipt hereto and mailing this card.

Respectfully,
Welsh & Katz, Ltd.



WELSH & KATZ, LTD.

Attorneys at Law

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THOMAS R. VIGIL

DONALD L. WELSH (1925-1998)

* ALSO ADMITTED IN DISTRICT OF COLUMBIA

June 12, 2002

Commissioner for Patents
Washington, D.C. 20231

Re: Patent Application of Heinz et al.
Serial No. 10/025,155
Filed: December 18, 2001
ANTENNA CONTROL SYSTEM
Our File No. 7836-84512USC1

CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this date.

6-12-02 
Date Eric D. Cohen, Reg. No. 38,110

Dear Sir:

Enclosed herewith are the following:

1. Transmittal Letter (in duplicate);
2. First Supplemental Information Disclosure Statement (in duplicate);
3. Form PTO-1449 (in duplicate);
4. Two (2) U.S. references cited therein;
5. One (1) other document cited therein; and
6. Postcard.

The Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 23-0920. A duplicate copy of this sheet is enclosed.

Very truly yours,

WELSH & KATZ, LTD.

By 

Eric D. Cohen



Docket: 84512USC1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Heinz et al.	Group Art Unit:	2824
Serial No.:	10/025,155	Examiner:	Not Yet Assigned
For:	ANTENNA CONTROL SYSTEM	Filed:	December 18, 2001

FIRST SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

- ☒ 1 Pursuant to 37 CFR 1.97(b)
[within 3 months of filing or prior to 1st Office Action]
- ☐ 2 Certification Pursuant to 37 CFR 1.97(c)
[before Final Office Action or Allowance]
- ☐ 3 Fee Payment Pursuant to 37 CFR 1.97(c)
[before Final Office Action or Allowance]
- ☐ 4 Petition, Certification & Petition Fee Payment Pursuant to 37 CFR 1.97(d)
[before issue fee payment]

Commissioner for Patents
Washington, D.C. 20231

SIR:

The following are submitted in the above identified application in compliance with 37 CFR 1.97 & 1.98:

- ☒ 5 A list of documents on Form PTO-1449 together with copies of each identified document and a translation or a concise explanation of each non-English language document is enclosed herewith.

This paper is submitted in accordance with:

- ☒ 6 37 CFR 1.97(b): [within 3 months of filing or prior to 1st Office Action]
- ☐ 7 37 CFR 1.97(c): [before Final Office Action or Allowance, whichever is earlier]; and
- ☐ 8 The required certification made in item 11 below; or
- ☐ 9 The \$180.00 fee specified in 37 CFR § 1.17(p) for submission of this Information Disclosure Statement is authorized in item 14 below.
- ☐ 10 37 CFR 1.97(d): [before issue fee payment]; and
 - a) This is a petition for consideration of the subject Information Disclosure Statement. The petition fee (\$180.00) required by 37 CFR 1.17(i)(1) is authorized in item 14 below. (Direct this letter to: "Attention PETITIONS EXAMINER" and if applicable include batch locator information: e.g. "Allowed Files, Batch _____, Date of Allowance _____"), and
 - b) The required Certification is stated in item 11 below.

☐ 11 Certification

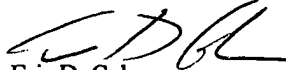
☐ 12 Each item of information in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; or

☐ 13 No item of information contained in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the person signing this document after making reasonable inquiry, was known to any individual designated in 37 CFR 1.56(c) more than three (3) months prior to the filing of this Statement.

☒ 14 Please charge all applicable fees associated with the submittal of this First Supplemental Information Disclosure Statement to Deposit Account No. 23-0920. An original and one (1) copy of this document are enclosed.

Respectfully submitted,

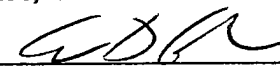
WELSH & KATZ, LTD.


Eric D. Cohen
Reg. No. 38,110

WELSH & KATZ, LTD.
120 South Riverside Plaza
22nd Floor
Chicago, IL 60606
(312) 655-1500
June 12, 2002

CERTIFICATE OF MAILING

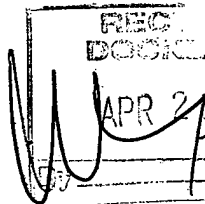
I hereby certify that this paper is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this date:

6-12-02 
Date Eric D. Cohen, Esq.
Registration No. 38,110
Attorney for Applicants



Form PTO-1449 (Rev. 8-88)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 84512USC1		Serial No. 10/025,155		
FIRST SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)				Applicants Heinz et al.				
				Filing Date December 18, 2001		Group No. 2824		
U.S. PATENT DOCUMENTS								
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
		4,451,699	05/29/84	Gruenberg				
		5,659,886	08/19/97	Taira et al.				
FOREIGN PATENT DOCUMENTS								
		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)								
		PCT International Search Report for International Application No. PCT/US02/01993, which is a related patent application						
Examiner				Date Considered				
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

EL996734671US



U.S. Patent Application
In re Heinz, et al.

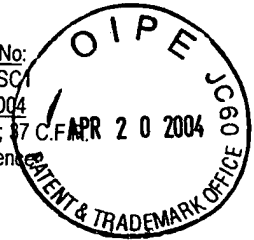
Welsh & Katz Ref. No.

7836/84512USC1

Serial No.: 10/025,155; Filed 12/18/01

20 April 2004

Transmittal Form (1 pg); Amendment Transmittal Letter (1 pg) in duplicate; 37 C.F.R. 1.607(a)(4) Amendment (16 pgs); 37 C.F.R. 1.607 Request for an Interference with Two Patents (13 pgs); Proposed Count for Heinz (10 pgs); Form PTO-850 (4 pgs); Supplemental Information Disclosure Statement (3 pgs) with Certificate of Mailing; form PTO-1449 (2 pgs); Copy of Listed Documents; Check for \$822; Certificate of Express Mailing No. EL996734671US



Sir:

Please acknowledge receipt of the above-identified documents by applying the Patent and Trademark Office receipt hereto and mailing this card.

LF:mmm

Respectfully,
Welsh & Katz, Ltd.

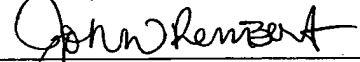
PATENT
7836/84512 US



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Heinz et al.)
Serial No.: 10/025,155)
Filed: 18 December 2001)
For: ANTENNA CONTROL)
SYSTEM)

I hereby certify that this paper is being deposited with the United States Postal Service as Express Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this date:


Date: 20 April 2004
Express Mail No. EL 996734671 US

SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir or Madam:

In accordance with 37 C.F.R. §§ 1.56, 1.97 and 1.98, applicants submit a list of documents, general remarks, an attached Form PTO-1449, and copies of the listed documents.

<u>U.S. Patent No.</u>	<u>Date of Issue</u>	<u>Inventor</u>
3,277,481	4 Oct. 1966	N. Robin et al.
4,176,354	27 Nov. 1979	Hsiao et al.
4,779,097	18 Oct. 1988	Morchin
4,881,082	14 Nov. 1989	Graziano
5,089,824	18 Feb. 1992	Uematsu et al.
5,093,923	3 Mar. 1992	Leslie
5,115,217	19 May 1992	McGrath et al.

<u>U.S. Patent No.</u>	<u>Date of Issue</u>	<u>Inventor</u>
5,170,140	8 Dec. 1992	Lowe et al.
5,175,556	29 Dec. 1992	Berkowitz
5,227,806	13 Jul. 1993	Eguchi
5,241,319	31 Aug. 1993	Shimizu
5,274,382	28 Dec. 1993	Wills et al.
5,300,935	5 Apr. 1994	Yu
5,463,401	31 Oct. 1995	Iwasaki
5,521,604	28 May 1996	Yamashita
5,583,514	10 Dec. 1996	Fulop
5,596,329	21 Jan. 1997	Scarle et al.
5,610,617	11 Mar. 1997	Gans et al.
5,617,103	1 Apr. 1997	Koscica et al.
5,623,270	22 Apr. 1997	Kempkes et al.
5,661,488	26 Aug. 1997	Kudo
5,809,395	15 Sep. 1998	Hamilton-Piercy et al.
5,860,056	12 Jan. 1999	Pond

<u>Foreign Patent Documents</u>	<u>Date</u>	<u>Country</u>	<u>Translation</u>
EP 0 540 387 A2	5 May 1993	EPO	
EP 0 593 822 B1	27 Apr. 1994	EPO	
EP 0 616 741 B1	28 Sep. 1994	EPO	
WO 92/16061	17 Sep. 1992	PCT	
WO/ 93/12587	24 Jun. 1993	PCT	

<u>Foreign Patent Documents</u>	<u>Date</u>	<u>Country</u>	<u>Translation</u>
JP 5-121915	18 May 1993	Japan	Yes
JP 6-326501	25 Nov. 1994	Japan	Yes

<u>Other Publications</u>	<u>Translation</u>
Cheston, T.C., "Beam Steering of Planar Phased Arrays" (<u>Phased Array Antennas</u> , Arthur A. Oliver (ed.), p. 219-20, Artech House, Inc. 1992)	


Lovis, Dietrich, "Structure and emission properties of an electronically controlled secondary radar antenna" (NIG Technical Reports V. 57 p. 161-65, Bad Neuheim conference, 8-11 March 1997)	Yes
---	-----

Strickland, Peter, "Microstrip Base Station Antennas for Cellular Communications" (IEEE CH2944-7/91/0000/0166, p. 166-71, 1991)

"900 MHz Base Station Antennas for Mobile Communication"
(Kathrein)

The listed documents were all identified by the examiner or in an Information Disclosure Statement for a related application, or were listed on the Singer patent (U.S. Patent No. 6,677,896) with which an interference is sought. It is respectfully requested that each of the above documents be given consideration by the Examiner and made of record in the captioned patent application.

Respectfully submitted,


L. Friedman
Reg. No. 37,135

20 April 2004
WELSH & KATZ, LTD.
120 South Riverside Plaza
22nd Floor
Chicago, Illinois 60606
Phone: (312) 655-1500
Fax: (312) 655-1501



Form PTO-1449 (Rev. 8-88)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No. 7836/84512USC1		Serial No. 10/025,155	
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)				Applicant Heinz et al.			
				Filed: 18 December 2001		Group No. 2824	
U.S. PATENT DOCUMENTS							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		3,277,481	4 Oct. 1966	N. Robin et al.			
		4,176,354	27 Nov. 1979	Hsiao et al.			
		4,779,097	18 Oct. 1988	Morchin			
		4,881,082	14 Nov. 1989	Graziano			
		5,089,824	18 Feb. 1992	Uematsu et al.			
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